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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,725	04/18/2005	Masahiro Ishida	OGW-0362	2313

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Patrick G. Burns - Greer, Burns & Crain, Ltd.
Suite 2500
300 South Wacker Drive
Chicago, IL 60606

EXAMINER	
MAKI, STEVEN D	
ART UNIT	**PAPER NUMBER**
1733	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,725	ISHIDA, MASAHIRO	
	Examiner	Art Unit	
	Steven D. Maki	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *042607*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1) The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2) Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 8, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is the subject matter of each arcuate groove being defined between a concave side and a convex side. The original disclosure describes each arc-like groove 3a as having a "convex portion" and illustrates each arc-like groove 3a as being defined between one convex side and another convex side. However, the original disclosure fails to reasonably convey reconfiguring the arc-like groove 3a shown in figure 1 such that it is defined between a concave side and a convex side instead of between two convex sides.

3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Japan 711

5) **Claims 1-4, 6 and 8-10 are rejected under 35 U.S.C. 102(a), (b) as being anticipated by Japan 711 (JP 2002-059711).**

Japan 711 discloses a pneumatic tire having a directional tread pattern comprising a "narrow circumferential groove" 20 having a width of 2 mm or less, four circumferential grooves 10 wherein the outer circumferential grooves 10B have a width Wg of 4-12 mm. In figures 1 and 2, Japan 711 shows a shallow circumferential groove at the center C wherein this shallow circumferential groove has a width greater than that of the "narrow circumferential groove" 20.

The claimed tire is anticipated by Japan 711's tire. The claimed auxiliary grooves read on the narrow circumferential grooves 20. The claimed straight main groove reads on the groove at the centerline C. The claimed arcuate curved main grooves read on either grooves 10A or 10B, which have curvilinear edges defining a continuous curvilinear groove centerline at the tread surface. The chamfers form the curved upper edges on both sides of each of the circumferential grooves 10A, 10B. The curved upper edges of groove 10B are best seen in figure 3. In claim 1, "plurality of arcuate grooves

that are circumferentially formed, with ends of adjacent arcuate grooves connected to each other, so as to be continuous in a repeated manner" reads on the either grooves 10A or 10B, which have curvilinear edges defining a curvilinear groove centerline at the tread surface. With respect to "connected", it is noted that grooves 10A and 10B are continuous. Furthermore, "connected" reads on inclined grooves being connected to the main groove and fails to exclude inclined grooves being connected to both sides of the "arcuate main groove". In other words, "with ends of adjacent arcuate grooves connected to each other" in claim 1 fails to require the arcuate curved main groove to have a continuous side edge.

6) **Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 711 in view of Japan 609 (JP 6-270609).**

Japan 711, which is discussed above, is considered to anticipate claim 1. In any event: With respect to the claimed groove widths, it would have been obvious to one of ordinary skill in the art to provide the center rib of Japan 711's directional tread pattern with a center groove having a width greater than the width (2 mm or less) of the narrow circumferential groove since Japan 609, directed to a directional tread having center ribs 6 for stability, suggests using a center circumferential groove 1 having a width such as 8 mm to improve wet performance (paragraph 14 of machine translation).

As to claim 2, Japan 711's grooves 10A and 10B are formed to be in a see through state.

As to claims 3 and 4, Japan 711 teaches inclined grooves.

As to claim 5, Japan 711 teaches a width Wg of 4-12 mm and Japan 609 teaches width of 8 mm for groove 1, a width of 4-7 mm for arcuate grooves 3 and a width of 9 mm for groove 2.

As to claim 6, Japan 711 teaches a width of 2 mm or less for groove 20.

As to claim 7, Japan 609 teaches a width of 2-7 mm for an inclined groove.

As to claims 8-10, it is acknowledged that grooves 10A, 10B fail to comprise a plurality of circularly curved groove portions which extend in the tire circumferential direction, the groove portions being convex towards the tire centerline and connected to one another. However, grooves 10A, 10B comprise "convex" outer edges. Attention is directed to the outer edge (right edge) formed by the chamfer in figure 3. This "convex" outer edge of groove 10B faces toward the straight circumferential groove on the centerline of the tread.

German 475

7) **Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over German 475 (DE 4239475) in view of Japan 711 (JP 2002-059711) and Japan 609 (JP 06-270609).**

German 475, directed to a tread design producing good aquaplaning properties but without increasing roll noise, discloses a vehicle tire (pneumatic tire) with a tread comprising arc shaped grooves. The arc-shaped grooves are connected together such that an "arcuate curved main groove" is provided on each side of the tread center 2c. See for example the directional tread pattern of figure 6 or the directional tread pattern of figure 9. In claim 1, "plurality of arcuate grooves that are circumferentially formed,

with ends of adjacent arcuate grooves connected to each other, so as to be continuous in a repeated manner" reads on German 475's connected arc shaped grooves shown for example in figure 6 or figure 9. German 475 also teaches providing a wide central groove 10 at the tread center 2c to improve aquaplaning resistance wherein the wide central groove 10 is a straight wide central groove. See figure 9. German 475 teaches that the wide central groove 10 may be used in all of the disclosed embodiments and not just the figure 9 embodiment. See paragraph 40 of the machine translation. Hence, German 475 substantially discloses the claimed invention except for the smaller width circumferential auxiliary grooves.

As to claim 1, it would have been obvious to one of ordinary skill in the art to provide German 475's directional tread pattern with auxiliary circumferential grooves having a width of less than 2 mm so as to have a width less than that of the straight wide central groove 10 and the "arcuate curved main grooves" formed by the connected arc shaped grooves since (1) Japan 711 suggests providing a directional tread pattern comprising main circumferential grooves having a width of 4-12 mm with narrow circumferential grooves having a width less than 2 mm to increase wandering performance and prevent wear (paragraph 31 of machine translation) and (2) Japan 609 suggests providing a directional tread pattern comprising arc shaped grooves 3 on both sides of a straight center main groove 1 of a directional tread pattern such the width of the arc shaped grooves 3 is for example 4-7 mm and the width of the straight center circumferential groove 1 is for example 8 mm so that the tire has high wet performance (table 2). Hence, Japan 711 and Japan 609 provide ample motivation (improved wet

performance) to provide German 475's arc shaped grooves and straight center main groove with a width in a range of at least 4 mm. Furthermore, Japan 711 motivates one of ordinary skill in the art to provide "narrow auxiliary circumferential grooves" having a width (i.e. 2 mm) less than the width (at least 4 mm) of the main grooves in a shoulder zone of German 475's tread to increase wandering performance and prevent wear.

As to claim 2, German 475 suggests connecting the arch shaped grooves to be in a "see through state". Note the connected arc shaped grooves on the left side of the tread in figure 9.

As to claims 3 and 4, each of German 475's arch shaped grooves extends diagonally to the tread edge and Japan 711 suggests locating the narrow circumferential grooves between the tread edges such that they cross diagonal groves.

As to claim 5, it would have been obvious to one of ordinary skill in the art to provide the straight main groove and the arcuate curved main groove with widths of 5-15 mm in view of Japan 609's suggestion to provide straight main groove 1 with a width for example of 8 mm and curved center diagonal grooves 3 with a width for example of 4-7 mm.

As to claim 6, Japan 711 teaches a width of 2 mm for the narrow circumferential grooves 20.

As to claim 7, it would have been obvious to one of ordinary skill in the art to provide the inclined grooves (the arc shaped grooves between the "arcuate curved main groove" and the tread edge) with a width of 1-7 mm in view of Japan 709's suggestion to provide the crosswise grooves with a width of 2-7 mm.

As to claims 8-10, note the connected arc shaped grooves in figure 6 or figure 9 of German 475.

8) **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over German 475 (DE 4239475) in view of Japan 711 (JP 2002-059711) and Japan 609 (JP 06-270609) as applied above and further in view of Japan 208 (JP 03-074208).**

As to claim 2, it would have been obvious to one of ordinary skill in the art to provide German 475's connected arc-shaped grooves such that the "arcuate shaped main grooves" are circumferentially formed to be in a see through state since Japan 208, directed to a tread design for improved dry and wet performance, suggests connecting grooves such that the connected grooves are circumferentially formed to be in a see through state defining a width w to prevent lowering of drainage property.

Remarks

9) Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 4-26-07 have been fully considered but they are not persuasive.

Applicant argues that Japan 711 does not disclose a plurality of arcuate grooves "with ends of adjacent arcuate grooves connected to each other" because upper end of chamfer 17 is not connected to the end of the next adjacent groove. This argument is not persuasive because (1) claim 1 requires "ends of adjacent arcuate grooves connected to each other" (generic subject matter) instead of "adjacent side edges of the arcuate grooves connected to each other" (narrower limitation) and (2) the groove

portions between the curvilinear upper edges formed by the chamfers of Japan 711 are connected together to form a *continuous* circumferential groove. In other words, applicant's above noted argument is not commensurate in scope with the claims and is thereby not persuasive because "with ends of adjacent arcuate grooves connected to each other" in claim 1 fails to require the arcuate curved main groove to have a *continuous side edge*. In any event, German 745 (newly cited) clearly teaches "with ends of adjacent arcuate grooves connected to each other".

10) No claim is allowed.

11) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Maki
July 21, 2007

Steven D. Maki 7-21-07
STEVEN D. MAKI
PRIMARY EXAMINER